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ABSTRACT

Certain mental disorders are caused by or accompanied by neurochemical abnormalities. The use of psychotropic medications has dramatically increased over the past two decades in all age groups, particularly with children. Therefore, psychopharmacology, the branch of pharmacology dealing with the psychological effects of drugs, needs to be carefully studied by all helping professionals. This article addresses: the importance of diagnosis, understanding the basic psychotropic medications by name and how they work, an awareness of side-effects/complications, and the importance of staying current with research in this field. (GCP)

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Psychopharmacology: A Guide for Helping Professionals

ERIC Digest

by
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Psychopharmacology: A Guide for Helping Professionals

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Introduction

Certain mental disorders are caused by or accompanied by neurochemical abnormalities. The use of psychotropic medications has dramatically increased over the past two decades in all age groups, particularly with children. Therefore, psychopharmacology, the branch of pharmacology dealing with the psychological effects of drugs, needs to be carefully studied by all helping professionals.

Olfson, Marcus, Weissman, & Jensen (2002) found between 1991 and 1995, the number of 2- to 4 year olds receiving stimulants such as Ritalin or antidepressants such as Prozac increased two- to three fold, with even a sharper increase for Clondidine, which is used to treat insomnia in hyperactive children. The number of children in the United States prescribed medications to treat depression, attention-deficit/hyperactivity disorder (ADHD) or other behavioral conditions nearly tripled between 1986 and 1996. Dr. Mark Olfson of Columbia University in New York City and colleagues reviewed surveys of medication use for more than 50,000 people, including about 17,000 children under the age of 18 years in 1986 and 1996. Findings, published in the May 2002 issue of the Journal of the American Academy of Child and Adolescent Psychiatry are:

- The number of children taking stimulants such as Ritalin and Adderall, used to treat ADHD quadrupled from 6 children per 1,000 in 1986 to 24 per 1,000 in 1996.
- The number of children taking antidepressants such as Prozac or Zoloft, among others, rose from 3 children per 1,000 in 1986 to 10 per 1,000 in 1996.
- In 1996, stimulant use was especially common in children aged 6 to 14 years and antidepressant use was common in children aged 15 to 18 years. (Olfson, Marcus, Weissman, & Jensen, 2002)

The increased use of psychotropic medication has been as dramatic for adolescents, adults, and particularly the elderly, a clear indication that helping professionals need to increase their knowledge base and understanding of psychotropic medications. This article addresses: the importance of diagnosis, understanding the basic psychotropic medications by name and how they work, an awareness of side-effects/complications, and the importance of staying current with research in this field.

Diagnosis: A Major Role for Helping Professionals

Treatment programs to mediate mental health issues are only effective if there is an accurate diagnosis. Diagnosis commences long before the beginning of treatment. This includes taking a client's history with an emphasis on family of origin. The standard used for the diagnosis of mental health disorders is the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM), but when considering the use of prescriptive drugs diagnosis expands far beyond the use of the DSM. In conjoint treatment as in the use of psychotherapy and drugs, clinicians' need to be knowledgeable of: mental health conditions that warrant consideration of drugs, medications frequently prescribed for certain disorders, and drug side effects/problems. It would also be prudent to be aware of: safe levels of drug dosing, the drug monitoring process, and psychiatric referrals.

Diagnosis, when psychotropic medication is a consideration, should be a collaborative process involving psychiatric and other physicians, the client, the client's family, and school based or other health care clinicians. After a comprehensive diagnostic evaluation, an individual treatment plan, based on any coexisting mental and physical conditions should be selected. Medications should not be considered as the first or only choice in treatment, but rather as part of a comprehensive treatment plan when benefits outweigh any risks. Examples of when psychotropic medications might be considered for children and adolescents follow (Pennsylvania Department of Public Welfare, Office of Mental Health & Substance Abuse Services, 2001):

1. The child or adolescent with a psychiatric disorder that is known to be responsive to psychotropic medication (Schizophrenic, Bipolar Disorder, OCD, ADHD, Depression).
2. The child or adolescent with a psychiatric disorder that is often responsive to psychotropic medication, especially if no improvement occurs through other approaches.
3. The child or adolescent for whom a co-occurring or secondary condition requires medication.
4. The child or adolescent with symptoms suggestive of a disorder, with a strong family history of that disorder and positive family response to use of a particular medication, especially when other interventions are insufficient.
5. The child with an adjustment disorder or acute response to stress, with symptoms that are responsive to psychotropic medication such as anxiety following the death of a parent.
6. Crisis: An acutely agitated or dangerous child, in need of emergency assessment with possible psychiatric hospitalization.

In the United States, one in five children and adolescents suffer from mental health problems at any given time, (Healthlink, 2003). The importance of early and accurate diagnosis is the key to providing comprehensive treatment. Although medication is not considered the first choice of treatment it often becomes part of treatment along with counseling. It is therefore important for helping professionals to enhance their knowledge base concerning psychotropic medications.

Psychotropic Medications: A Brief Overview

A number of mental disorders either caused by or accompanied by neurochemical abnormalities, have been shown to be effectively treated by psychotropic medications. Psychotropic medications are referred to as psychiatric medications, psychoactive medications, or simply described as prescribed drugs used to stabilize or improve mood, mental status, or behavior. Psychotropic medications have two names; a brand name or trade name, chosen by the drug manufacturer and a generic name often derived from the chemical structure of the drug. The general public refers to the psychotropic medication by its brand name, such as Ritalin or Prozac, while scientific reports refer to the generic name such as methylphenidate or fluoxetine. Many generic names are very similar, such as fluoxetine (Prozac), and fluvoxamine (Luvox). Both of these drugs are used as antidepressants. It is important to understand why one drug might be preferred over another. For example, both Prozac and Luvox are considered antidepressants, they both act on serotonin, and both have mild sedation qualities. So why might one of these medications be prescribed over the other? A number of factors are considered when determining what drug is be best suited for a client. The first line of questioning used by psychiatrists is whether the client or any member of his/her family has a history with the medications being considered. If it is discovered that

either the client or a family member had success with a particular medication in the past, it is that medication which is often recommended. However, if there is no such history, other factors including the client's symptomology and medication tolerance are considered.

Psychotropic medications are classified by their chemical structure, their action on the brain, or their therapeutic action. Major mental illness involves neurochemical dysfunctions in the subcortical areas of the brain: the limbic system, basal ganglia, reticular system and brain stem (Preston, O'Neal, & Talaga, 1997). Dysfunction in the brain such as disruption of neurotransmitters can result in a severe mental health problem, e.g., major depression. In major depression it has been estimated that the neuronal pathways affected represent only about 1 % of the total brain nerve cells, yet this condition can be very debilitating for the individual (Preston, O'Neal, & Talaga, 1997). Not all forms of depression are chemically based, but when physiological symptoms are present psychotropic drugs, i.e., antidepressant medications, are quite effective. Knowledge of the medication's therapeutic action and expected effect is valuable information for helping professionals. Table 1 is drawn from the Mental Health & Developmental Disabilities Center (2003) and provides examples of the generic & brand names, of the most commonly used psychotropic medications and summarizes their therapeutic action and intended effect. Helping professionals should be familiar with these and other commonly prescribed drugs:

Table 1: Example Medications and Their Effects

Examples (Generic & Brand Name of Drug)	Therapeutic Action	Effect
Fluoxetine (Prozac) Paroxetine (Paxil) Sertraline (Zoloft) Imipramine (Tofranil)	Antidepressants	Elevate mood in people who are depressed.
Clonazepam (Klonopin) Lorazepam (Ativan) Buspirone (BuSpar)	Anti-anxiety	Used to treat anxiety disorders and reduce anxiety symptoms.
Carbamazepine (Tegretol) Lithium (e.g., Lithonate) Valproic acid (Depakene, Depakote)	Mood Stabilizers	Reduce mood swings in individuals with manic-depressive illness.
Haloperidol (Haldol) Risperidone (Risperdal) Olanzapine (Zyprexa)	Antipsychotic Drugs	Treat psychotic disorders such as schizophrenia. Reduce psychotic symptoms such as hallucinations.
Methylphenidate (Ritalin) Dextroamphetamine (Dexedrine) Pemoline (Cylert)	Stimulants	Treat Attention-Hyperactivity Disorder.
Propanolol (Inderal)	Beta Blockers	Treat some forms of severe aggression.
Naltrexone (ReVia)	Opiate Blockers	Treat some forms of self-injurious behavior.

Psychotropic Medications: Side Effects

The dramatic increase in the use of psychotropic medications is evident. Helping professionals should be knowledgeable of possible side effects when considering psychotropic medication. A Health and Safety Alert, Excessive Psychotropic Medication and Psychotropic Medication Side Effects (2002), describes the following serious side effects common to most psychotropic drugs:

A. Allergic reaction (difficulty breathing, swelling of lips/face/tongue, rash or fever).
B. Change in level of alertness (excess sleepiness, insomnia or confusion).
C. Eating problems (nausea, vomiting, weight gain or loss).
D. Change in stool pattern (constipation, diarrhea).
E. Change in heartbeat (slow, fast, irregular) or blood pressure (high or low).
F. Fainting or dizziness, especially with change in position such as upon standing.
G. Abnormal posture, movement, or gait.
H. Yellowing of eyes or skin.
I. Unusual bruising or bleeding.

Conclusions

It is important for helping professionals to identify prescribed medications (generic and trade name), their dosage, therapeutic benefits, side effects, and risks involved, while remaining familiar with current mental health issues. Helping professionals can utilize a number of resources such as electronic sources, textbooks, medical libraries, courses, and current research briefs to expand and update their knowledge of psychopharmacology.

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